Please add the following new claims:

58. (New) A vector comprising:

(a) a first promoter operably linked to an exon and an unpaired splice donor site, and

(b) a second promoter operably linked to a selectable marker lacking a polyadenylation signal.

59. (New) The vector of claim 58, wherein said first and second promoters are present in said vector in the same orientation.

60. (New) The vector of claim 59, wherein said vector is linear and wherein said selectable marker is located 3' to said first promoter.

61. (New) The vector of claim 59, wherein said vector is linear and wherein said second promoter is located 5' to said unpaired splice donor site.

62. (New) The vector of claim 58, wherein said exon lacks a translation start codon.

63. (New) The vector of claim 58, wherein said exon comprises a translation start codon.

64. (New) The vector of claim 58, wherein said exon comprises a translation start codon and a signal secretion sequence.

65. (New) A vector comprising a first promoter and a second promoter, said first and second promoters being oriented in the same direction, wherein:

(a) said first promoter, but not said second promoter, is operably linked to an unpaired splice donor site; and

(b) said vector comprises no polyadenylation signals downstream of either said first promoter or said second promoter.

66. (New) The vector of claim 65, wherein said vector is linear and wherein said second promoter is located 3' to said first promoter.

67. (New) A vector comprising:

(a) a first promoter operably linked to a first selectable marker containing an unpaired splice donor site; and

(b) a second promoter operably linked to a second selectable marker, wherein neither said first selectable marker nor said second selectable marker contains a polyadenylation signal.

68. (New) The vector of claim 67, wherein said first and second selectable markers are positive selectable markers.

69. (New) The vector of claim 67, wherein said first selectable marker is located upstream of said second selectable marker.

70. (New) A vector construct comprising:

(a) a first promoter operably linked to a positive selectable marker;

(b) a second promoter operably linked to a negative selectable marker; and

(c) an unpaired splice donor site,

wherein said positive and negative selectable markers and said splice donor site are oriented in said vector construct in an orientation that, when said vector construct is integrated into the genome of a eukaryotic host cell in such a way that an endogenous gene in said genome is

transcriptionally activated, then said positive selectable marker is expressed in active form and said negative selectable marker is either not expressed or is expressed in inactive form.

71. (New) The vector construct of claim 70, further comprising a third promoter operably linked to a second unpaired splice donor site.

72. (New) The vector of any one of claims 58, 65, 67, 70, or 71, said vector further comprising one or more transposition signals.

73. (New) The vector of any one of claims 58, 65, 67, 70, or 71, said vector further comprising one or more amplifiable markers.

74. (New) The vector of any one of claims 58, 65, 67, 70, or 71, said vector further comprising one or more viral origins of replication.

75. (New) The vector of any one of claims 58, 65, 67, 70, or 71, said vector further comprising one or more viral replication factor genes.

76. (New) The vector of claim 73, wherein said amplifiable marker is selected from the group consisting of dihydrofolate reductase, adenosine deaminase, aspartate transcarbamylase, dihydro-orotase, and carbamyl phosphate synthase.

77. (New) The vector of claim 74, wherein said viral origin of replication is selected from the group consisting of Epstein Barr virus ori P and SV40 ori.

78. (New) The vector of any one of claims 58, 65, 67, 70, or 71, said vector further comprising genomic DNA.

79. (New) A host cell comprising the vector of any one of claims 58, 65, 67, 70, or 71.

80. (New) A host cell comprising the vector of claim 72.

81. (New) A host cell comprising the vector of claim 73.

82. (New) A host cell comprising the vector of claim 74.

83. (New) A host cell comprising the vector of claim 75.

84. (New) A host cell comprising the vector of claim 78.

85. (New) The host cell of claim 79, wherein said host cell is an isolated cell.

86. (New) The host cell of any one of claims 80-85, wherein said host cell is an isolated cell.

87. (New) A library of cells comprising the vector of any one of claims 58, 65, 67, 70, or 71.

88. (New) A library of cells comprising the vector of claim 72.

89. (New) A library of cells comprising the vector of claim 73.

90. (New) A library of cells comprising the vector of claim 74.

91. (New) A library of cells comprising the vector of claim 75.

92. (New) A library of cells comprising the vector of claim 78.

93. (New) A method for activation of an endogenous gene in a cell comprising:

(a) transfecting a genome-containing cell with the vector of any one of claims 58, 65, 67, 70, or 71; and

(b) culturing said cell under conditions suitable for non-homologous integration of said vector into the genome of said cell, wherein said integration results in the activation of an endogenous gene in the genome of said cell.

94. (New) A method for identifying a gene comprising:

(a) transfecting a plurality of genome-containing cells with the vector of any one of claims 58, 65, 67, 70, or 71;

(b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genome of the host cell;

(c) selecting for cells in which said vector has integrated into the genomes of said cells;

(d) isolating RNA from said selected cells;

(e) producing cDNA from said isolated RNA; and

(f) identifying a gene in said cDNA by isolating one or more cDNA molecules containing one or more nucleotide sequences from said vector.

95. (New) The method of claim 94, wherein said identification in (f) is accomplished by hybridizing said cDNA to said vector.

96. (New) The method of claim 94, wherein said identification in (f) is accomplished by sequencing said cDNA and comparing the nucleotide sequence of said cDNA to the nucleotide sequence of said vector.

97. (New) The vector of claim 67, wherein said unpaired splice donor site is positioned upstream of, or within, said first selectable marker such that, when said vector is integrated into the genome of a eukaryotic host cell resulting in splicing from said unpaired splice donor site to a genome-encoded splice acceptor site, then said first selectable marker is expressed in inactive form or is not expressed at all.

98. (New) A method for isolating cells in which a single exon gene has been activated, comprising:

(a) transfecting a plurality of genome-containing eukaryotic cells with the vector of claim 97;

(b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genomes of said cells; and

(c) selecting for cells in which said first and second selectable markers are expressed in their active forms.

99. (New) The method of claim 98, further comprising:

(d) isolating RNA from the selected cells;

(e) producing cDNA from said isolated RNA; and

(f) isolating a single exon gene from said cDNA.

100. (New) A method for isolating exon I of a gene comprising:

(a) transfecting one or more genome-containing eukaryotic cells with the vector of any one of claims 58, 59, 61, 65, or 67;

(b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genome of said cells;

(c) selecting for cells in which said vector has transcriptionally activated an endogenous gene containing one or more exons;

(d) isolating RNA from said selected cells;

(e) producing cDNA from said isolated RNA;

(f) recovering cDNA molecules containing a first exon from said vector spliced to a second exon from said endogenous gene, thereby obtaining one or more vector exon-tagged cDNA molecules; and

(g) using said vector exon-tagged cDNA molecules to recover the activated endogenous gene containing exon I.

101. (New) A method for expressing a transcript containing exon I of a gene, said method comprising:

(a) transfecting one or more genome-containing eukaryotic cells with the vector of any one of claims 58, 59, 61, 65, or 67;

(b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genome of said cells; and

(c) culturing said cells under conditions suitable for expression of a transcript containing exon I from an endogenous gene.

102. (New) A method for producing a gene product encoded by an endogenous cellular genomic gene, comprising:

(a) isolating genomic DNA, containing at least one gene, from a eukaryotic cell;

(b) inserting into or otherwise combining with said isolated genomic DNA, the vector of any one of claims 58, 59, 61, 65, or 67, thereby producing a vector-genomic DNA complex;

(c) transfecting said vector-genomic DNA complex into a suitable eukaryotic host cell; and

(d) culturing said host cell under conditions suitable to result in transcription of one or more genes encoded by said vector contained in said vector-genomic DNA complex.

103. (New) The method of claim 102, further comprising:

(e) isolating RNA produced by said transcription from said host cell;

(f) producing one or more cDNA molecules from said isolated RNA; and

(g) recovering one or more cDNA molecules containing vector sequences at the 5' ends of said cDNA molecules, thereby isolating said gene.

104. (New) The method of claim 102, wherein said vector further comprises one or more transposition signals, and wherein said vector is inserted into said isolated genomic DNA by *in vitro* transposition.

105. (New) The method of claim 102, wherein said isolated genomic DNA is present in a cloning vector.

106. (New) A method for producing a protein comprising:

(a) isolating genomic DNA from one or more cells;

(b) inserting into or otherwise combining with said isolated genomic DNA, the vector of any one of claims 58, 59, 61, 65, or 67, thereby producing a vector-genomic DNA complex;

(c) transfecting said vector-genomic DNA complex into a suitable host cell; and

(d) culturing said cell under conditions suitable to result in protein expression from said genomic DNA contained in said vector-genomic DNA complex.

107. (New) The method of claim 106, wherein said host cell is selected from a cell containing said transfected vector-genomic DNA complex prior to, during, or following being cultured under conditions suitable to result in protein expression.

108 (New) The method of claim 105, wherein said cloning vector is selected from the group consisting of a BAC, a YAC, a PAC, a cosmid, a phage, and a plasmid.

109 (New) The method of claim 102, further comprising isolating said protein.

110 (New) A protein produced by the method of claim 106.

111 (New) A protein produced by the method of claim 107.

112 (New) A protein produced by the method of claim 109.

113 (New) The vector construct of claim 70, wherein said positive selectable marker is selected from the group consisting of a neomycin gene, a hypoxanthine phosphribosyl transferase gene, a puromycin gene, a dihydrooratase gene, a glutamine synthetase gene, a histidine D gene, a carbamyl phosphate synthase gene, a dihydrofolate reductase gene, a multidrug resistance I gene, an aspartate transcarbamylase gene, a xanthine-guanine phosphoribosyl transferase gene, and an adenosine deaminase gene.

114 (New) The vector construct of claim 70, wherein said negative selectable marker is selected from the group consisting of a hypoxanthine phosphribosyl transferase gene, a thymidine kinase gene, and a diphtheria toxin gene.

115 (New) The vector of claim 70, wherein said negative selectable marker is located upstream of said positive selectable marker.